



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/687,020	10/13/2000	Eric C. Coad	55202USA1A.002	9163

32692 7590 04/17/2003

3M INNOVATIVE PROPERTIES COMPANY
PO BOX 33427
ST. PAUL, MN 55133-3427

EXAMINER

SHAKERI, HADI

ART UNIT	PAPER NUMBER
----------	--------------

3723

DATE MAILED: 04/17/2003

15

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/687,020

Applicant(s)

COAD ET AL.

Examiner

Hadi Shakeri

Art Unit

3723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 and 20-31 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 and 20-31 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. An action on the RCE follows.

Claim Objections

2. Claims 1-18 and 20-31 are objected to because of the following informalities: the use of "consisting essentially of" as recited in claims 1 and 20 is objected to. Applicant is requested to amend by reciting either "consisting of" or "comprising of". Appropriate correction is required.

Claim Rejections - 35 USC § 102

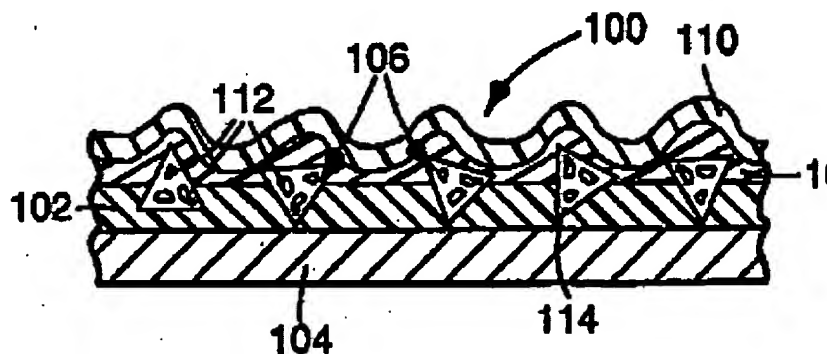
3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-5, 7-14, 18, 20-27 and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Holmes et al., US Patent No. 5,690,705.

Holmes et al. discloses all the limitations of claims 1 and 20, i.e., an abrasive article, e.g., (100) comprising a backing (104) an abrasive coating consisting essentially of a harden binder

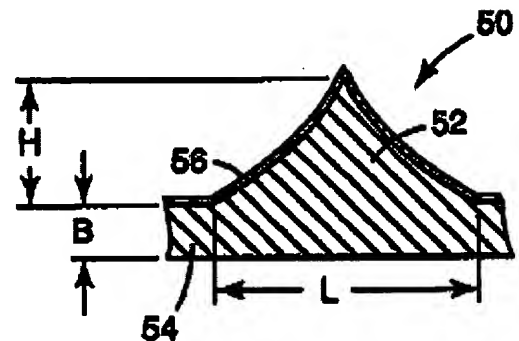


Art Unit: 3723

comprising a plurality of precisely-shaped protrusions (106) that are free of abrasives (col. 15, lines 13-15), and diamond like carbon coating, col. 15, lines 56-63.

5. Claims 1-4, 7-14, 18, 20-27 and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Pollasky, WO 99/43491.

Pollasky discloses all the limitations of claims 1 and 20, i.e., an abrasive article, e.g., (50) comprising a backing (54) an abrasive coating consisting essentially of a harden binder comprising a plurality of precisely-shaped protrusions (52) that are free of abrasives and diamond like carbon coating, page 6, liens 22-26.



Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-18 and 20-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stubbs et al. in view of Martin et al.

Stubbs et al. discloses all the limitations of claims 1 and 20, i.e., an abrasive article (30) comprising a backing (31) an abrasive coating consisting essentially of a harden binder comprising a plurality of precisely-shaped protrusions (34) that are free of abrasives (col. 15, lines 10-17) for buffing applications or polishing of workpieces like glass or wood, except for disclosing the diamond-like carbon coating. Martin et al. teaches an abrasive article having a

Art Unit: 3723

diamond like coating layer (48) and it teaches provision of the hard carbon coating layer of DLC in the abrasive article, the cut rate and total cut are improved as compared to abrasive articles lacking the hard carbon coating layer. , col. 5, lines 3-8.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the article of Stubbs et al. by providing the diamond-like coating as taught by Martin et al. to improve the cut rate for abrasive free applications, e.g., buffing and/or glass, wood, etc. polishing.

Regarding claims 2-18 and 21-31, prior art meets the limitations.

8. Claims 1, 2, 5-18 and 20-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al. in view of Stoetzel.

Martin et al. discloses all the limitations of claims 1 and 20, i.e., a method, col. 13, lines 39-68 and col. 14, lines 6-15, and an abrasive article (40) comprising a backing (42) an abrasive coating consisting essentially of a hardened binder comprising a plurality of precisely-shaped protrusions (44) (46) and a diamond-like carbon coating (48), except that even though it states "abrasive articles typically comprise abrasives" col. 9, lines 65-67, and that "...hard coating is substantially firmly bonded to the surface of an organic binder with or without abrasive particles, col. 5, lines 1 and 2, it does not, however, specifically states, abrasive articles free of abrasives particles. Stoetzel teaches an abrasive article, stating that generally it is preferred to incorporate abrasive particles into the abrasive composites, though in some instances an abrasive composite layer may not comprise abrasive particles, col. 8, lines 1-4, designed for workpieces such as wood, plastic...

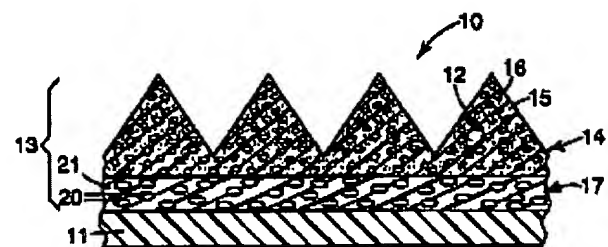


Fig. 1

Art Unit: 3723

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the abrasive article of Martin et al. by eliminating the abrasive particles in the binder (44) as taught by Stoetzel to adapt the article for polishing "soft" workpieces, such as painted surfaces, wood or plastic. Stoetzel, col. 8, lines 6-8.

Regarding claims 2, 5-18 and 21-31, Martin in view of Stoetzel meets the limitations.

9. Claims 1-18 and 20-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al. in view of Stubbs et al.

Martin et al. discloses all the limitations of claims 1 and 20, except that except that as indicated above, abrasive articles free of abrasive particles. Stubbs et al. teaches structured abrasive composite that are essentially free of abrasives that are suited for polishing or buffing of workpieces that are softer than the composites.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the abrasive article of Martin et al. by eliminating the abrasive particles in the binder (44) as taught by Stubbs et al. to adapt the article for polishing and buffing applications, for workpieces that are softer than the composites in reducing costs, i.e., elimination of the abrasive particles.

Regarding claims 3 and 4, prior art (Martin in view of Stubbs) meets the limitations, Stubbs, col. 15, lines 18-31.

Regarding claims 2, 5-18 and 21-31, prior art (Martin in view of Stubbs) meets the limitations.

Response to Arguments

10. Applicant's arguments filed April 08, 2003 have been fully considered but are moot in view of the new ground(s) of rejection. However, the following is made part of the record.

Art Unit: 3723

In response to applicant's argument that the advantage of the claimed abrasive articles and methods is not directed to abrasive cutting performance but rather not to contaminate the work, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). Stoetzel et al. discloses structured abrasive composites free of abrasives the fact that it is used for preventing contamination of the work, which would flow naturally for that specific application, is irrelevant.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Martin et al. teaches the advantages of DLC coating in improving the cutting performance, , col. 3 lines 60-66. Stoetzel teaches the use of abrasive free article for soft polishing for specific applications, and Stubbs et al. also teaches abrasive composite that are essentially free of abrasives that are suited for polishing or buffing of workpieces that are softer than the composites.

Regarding the modification of abrasive free article of Stubbs in view of Martin, Stubbs specifically discloses the use of abrasive free article for certain type of application, e.g., buffing and for certain type of workpieces, e.g., wood, glass... and Martin et al. specifically teaches the improvement in polishing by applying DLC. Same argument applies to Stoetzel in view of Martin et al., and here again the polishing of soft workpieces is improved by providing DLC. It appears

Art Unit: 3723

the argument is that for a combination of prior art to be proper, the motive or suggestion to modify has to be the same as disclosed by the Applicant, e.g., to reduce the contaminant, which is not persuasive.

It is also noted that a reference is good not only for what it teaches but also for what one of ordinary skill might reasonably infer from the teachings. *In re Opprecht* 12 USPQ 2nd 1235, 1236 (CAFC 1989); *In re Bode* USPQ 12; *In re Lamberti* 192 USPQ 278; *In re Bozek* 163 USPQ 545, 549 9CCPA 1969; *In re Van Mater* 144 USPQ 421; *In re Jacoby* 135 USPQ 317; *In re LeGrice* 133 USPQ 365; *In re Preda* 159 USPQ 342 9CCPA 1968".

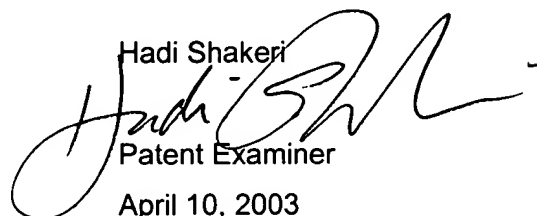
In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion

11. The prior art made of record and not relied upon are considered pertinent to applicant's disclosure. Sommer et al., Brandt and Brown et al. are cited to show related

12. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Hadi Shakeri at (703) 308-6279, FAX (703) 746-3279 for unofficial documents. The examiner can normally be reached on Monday-Thursday, 7:30 AM to 6:00 PM. Official documents may be faxed to (703) 872-9302, after final to (703) 872-9303.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist at (703) 308-1148.

Hadi Shakeri

Patent Examiner
April 10, 2003